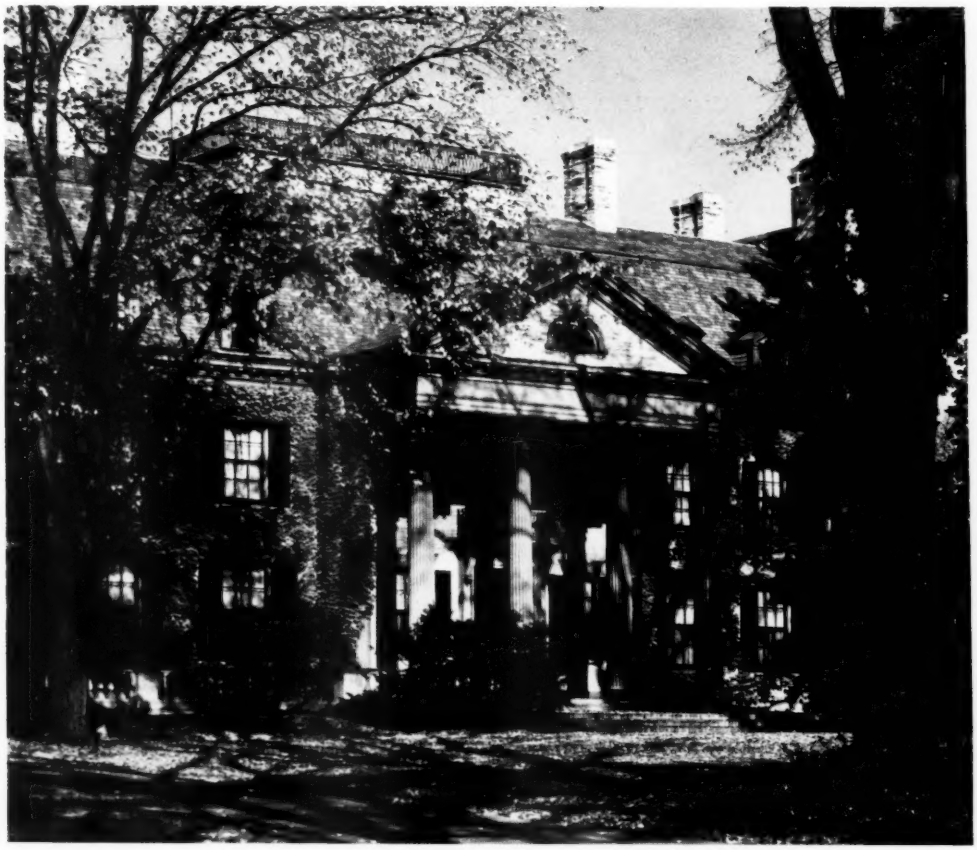
IMAGE

NO. 59

MARCH, 1958

JOURNAL OF PHOTOGRAPHY AND MOTION PICTURES
OF THE GEORGE EASTMAN HOUSE



PHOTOGRAPHY AT THE GREAT EXHIBITION — 1851

The photographic record of the first international exposition ever held

by Gerda Peterich

HOW GEORGE EASTMAN INVENTED THE FIRST KODAK CAMERA

The step by step development of an idea

by Beaumont Newhall

Ansel Adams

Edward Weston

EDWARD WESTON, one of America's greatest photographers, died on New Year's day at his home in Carmel, California. He was 71 years old and was suffering from Parkinson's Disease, which had prevented him from active photography for more than ten years.

Few photographers in any country have had a more direct and profound influence on photography than Edward Weston. His death will be mourned the world over.

In the early 1920s Weston stood at the head of his profession as a portrait photographer. He was in constant demand as a speaker at professional conventions. He was a member of the London Salon. He was known in exhibitions in America and abroad as a proponent of the soft focus approach to photography.

Within a few years time, Weston changed his photographic style radically. He turned from soft focus effects to a sharp, clean decisiveness; he substituted glossy chloro-bromide paper for the softer platinotype paper; and above all, he began to simplify his technique and develop the ability to previsualize the final photograph from the ground glass image of his camera. In Mexico, where he lived (except for one six-month period) from 1923 to 1926 he worked out a completely individual style of photography, at variance with all that he had done before and which pointed to the future.

On his return to California he began the series of close-up studies of shells and vegetables which, too, were innovations. Soon he discovered the beauties of Point Lobos, a natural preserve near Carmel which is now a State Park, and which was to serve him for the rest of his life as the source of his finest photographs.

In 1932 a group of friends, who admired his stark, clean-cut approach to photography, formed an organization which they called "Group f/64," choosing as a name the lens aperture which gives marked sharpness of focus. The enthusiasm of this youthful group led to the organization of exhibitions and the writing of articles which all too often gave the impression that the force of Weston's work lay in its technique, whereas actually behind every picture was the discipline of a master craftsman and the sensitivity of a great artist.

Long a believer that one of the characteristics of photography was the ability which it gave to the photographer to produce a tremendous quantity of images, Weston was enabled to carry out this "mass production" theory in 1937 and 1938, when he was awarded a Fellowship by the John Simon Guggenheim Memorial Foundation — the first photographer to be so honored. He traveled throughout the West and produced upwards of 1500 negatives. The experience was further broadened when he traveled to the South and the East Coast in 1941, illustrating a special edition of Walt Whitman's Leaves of Grass.

Edward Weston always avoided the word "artist." He preferred to be known simply as "photographer." Yet his work has long since been recognized as a part of our artistic heritage by the many museums throughout the world which have shown his photographs, by his many collectors, critics and, above all, fellow photographers.

IMAGE

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OF THE GEORGE EASTMAN HOUSE

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PHOTOGRAPHY AT

The Great Exhibition

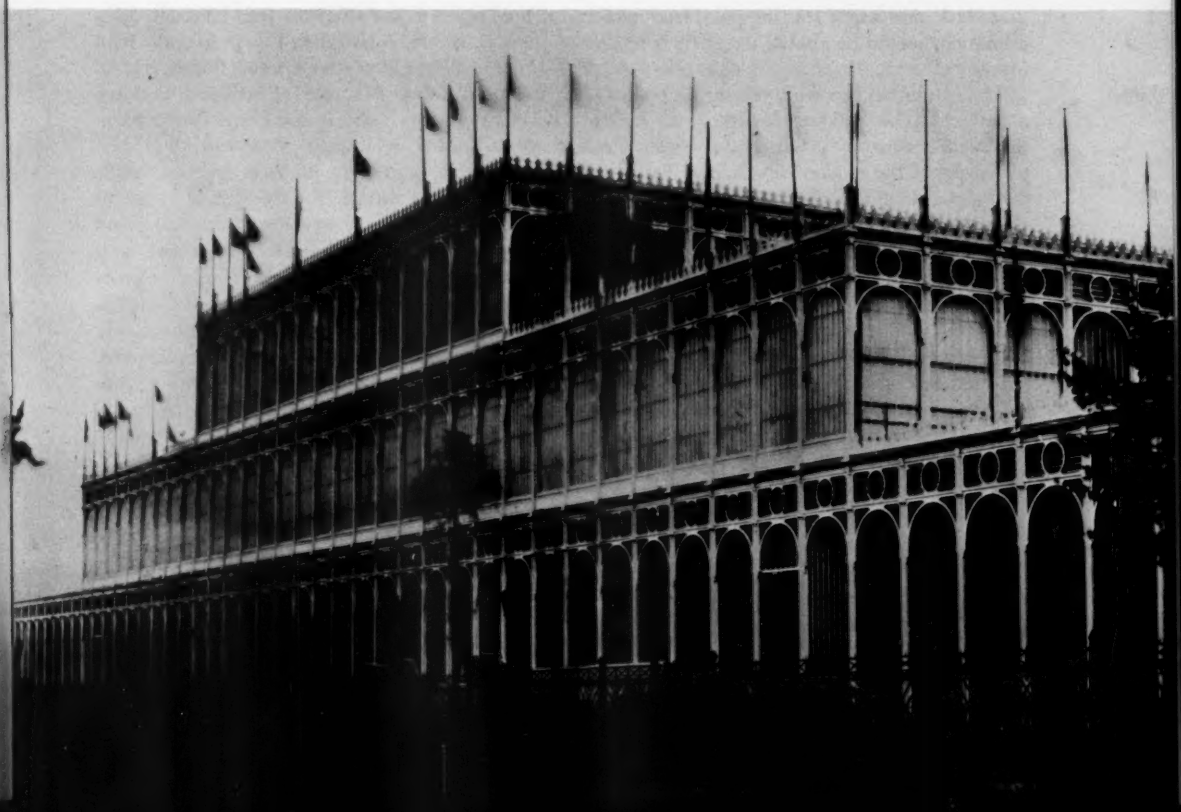
BY GERDA PETERICH

1851

IN THE COLLECTION OF GEORGE EASTMAN HOUSE are eight large, handsome volumes dealing with the Great Exhibition of 1851 at the Crystal Palace in London Hyde Park. Approximately 10 x 14 in. in size, they are sumptuously bound in red leather, gilt edged, and decorated with the royal monogram. Three of these volumes comprise the *Official Descriptive and Illustrated Catalogue of the Exhibition,* one contains *Reports to the Crown,* and four contain the *Reports by the Juries on the Subjects in the Thirty Classes into which the Exhibition was divided.* (1) A red leather case, in imitation of the volumes, contains four medals. The entire set was "presented by Her Majesty's Commissioners for the Exhibition of MDCCCLI to Arthur Kett Barclay, Esq." Of this "presentation set," as it is commonly called, the four volumes containing the *Reports by the Juries* are of particular interest since they are illustrated with 155 original Calotypes, about 6½ x 9 in., pasted on heavy paper and bound with the text.

Before the invention of a practicable halftone process for the reproduction of photographs in publications, it was a not uncommon practice to

CRYSTAL PALACE, VIEW OF EAST END OF BUILDING.



illustrate books by the use of tipped-in original photographs. Fox Talbot, the inventor of the negative-positive process on paper, was the first to use this method in his *Pencil of Nature,* published in 1844. Other illustrated books followed and by 1852, the official publication date of the *Reports,* the practice was fully established. It is therefore not surprising that the Royal Commissioners for the Great Exhibition should turn to photography to make a thorough record of the buildings and many industrial and art objects that were displayed in them, even though photography was far from being perfected.

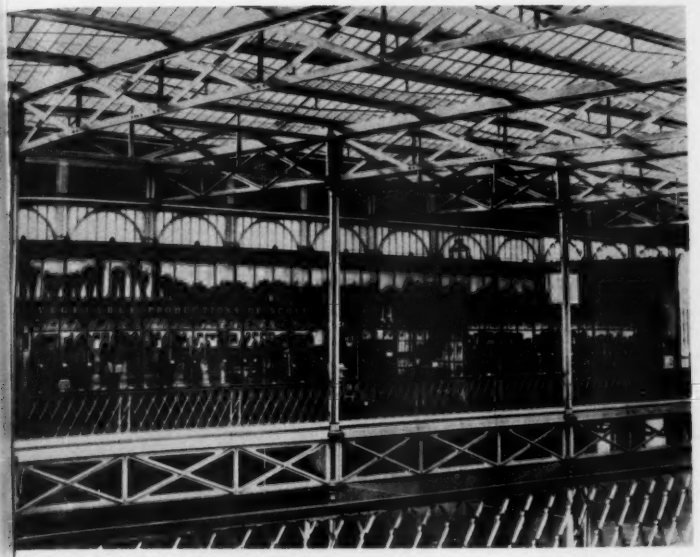
To understand fully the value of this set of books, one must understand the significance of the Exhibition. This was the first international exhibition ever held. The scale of it was impressive even by modern standards. The value of international industrial exchange, although questioned by some members of the House and Parliament, was fully understood by the Prince Consort, who was the most important sponsor of the idea. The Victorian age attached to industrial progress a moral value. The international co-operation toward this progress was hailed as a "peace offering." In a speech the Prince Consort said: "The Exhibition of 1851 would afford a true test of the point of development at which the whole mankind has arrived in this great task, and a new starting point from which all nations would be able to direct their further exertions."

The exhibition was truly the starting point of a new era. The building itself was an innovation which eventually led to the construction technique of the modern skyscraper. The Crystal Palace, as it was christened by *Punch,* was erected of iron and glass. Ruskin called it "a greenhouse larger than ever [a] greenhouse was built." Its architect was Sir Joseph Paxton, a horticultural expert and constructor of greenhouses. His design was functional in the modern meaning, that is, without disguise of construction and materials. What the building housed, however, was not as progressive in design. Utilitarian objects, even machinery, were clad in rich ornamentation imitative of classical, medieval and Renaissance furnishings. The styles of these over ornate objects are caught exquisitely in the engravings which illustrate the *Catalogue.* Many of these were made after Daguerreotypes. The calotypes which illustrate the *Jury Reports* do not give equally fine detail. However, they are more in keeping with the progressive spirit of the exhibition.

Photographically the year 1851 was an extremely important one. It was the year of Scott Archer's invention of the wet-plate process. The Daguerreotype and the Talbotype (or Calotype) were still in full use and the gelatin glass negative found favor with many photographers. Positive printing methods had undergone several improvements and great attention was given to the permanence of prints. In France Blanquard-Evrard had founded his photographic printery boasting a 200 to 300 print output a day. Illustration of books by photography had become practical.

At the Crystal Palace photography found its first international forum. Under Section II, Class 10 "Philosophical, Musical, Horological, and Surgical Instruments" we find exhibited "Photography . . . both on plates of silver and glass, and on paper. The most beautiful specimens of sun-drawn pictures are exhibited. Daguerreotypes of every kind, plain and coloured, 'enamelled' and 'crayon' . . . The Talbotypes are also very beautiful, and present a charming evidence of the fidelity and artistic effects capable of being produced by the Pencil of Nature." *(Catalogue,* I, 405.) The list of exhibitors *(Reports,* II, 597-610) reads like a Who's Who. To name but a few of the most outstanding: Antoine Francois Jean Claudet, Mathew B. Brady, John Jabez Edwin Mayall, John Adams Whipple of the United States; D. O. Hill and Robert Adamson of Scotland; Gustave LeGray, Henry LeSecq and Louis Désiré Blanquart-Evrard of France. We read (II, 522): ". . . for Daguerreotype portraits America stands prominently forward. France first in order of merit for Calotypes, or sun-pictures. England possessing a distinct character of her own, and presenting illustrations of nearly all the processes which have as yet been adopted. America stands alone for stern development of character [in portraits]: Her works, with few exceptions, reject all accessories, present a faithful transcript of the subject, and yield to none in excellence of execution." The work exhibited by each photographer is described and criticized, but none is reproduced. Neither do we find among the calotypes of "philosophical instruments" a single picture of photographic apparatus.

Such an account of photographs might not appear to be too important. But when we consider that at the time it was compiled, only



VEGETABLE PRODUCTS OF SCOTLAND. This photograph affords a fine architectural record. The commissioners were fully aware of the documentary value of these photographs. It was the first time that objects were photographed for the sake of their interest, regardless of artistic beauty.

AGRICULTURAL IMPLEMENTS. "The most remarkable feature in the agricultural operation of the present day is undoubtedly the rapid introduction and use of small portable steam engines . . . unknown until within the last two years."

MEDIEVAL TOMB. Design by Myers, placed in the "Medieval Court" of the Exhibition. "These designs are imitative of English medieval architectural decoration, and are chiefly, though not entirely, ecclesiastical in their uses." Photographed signed with H. O. monogram.

three photographic magazines were in existence, immediately the value of the *Reports* becomes apparent.

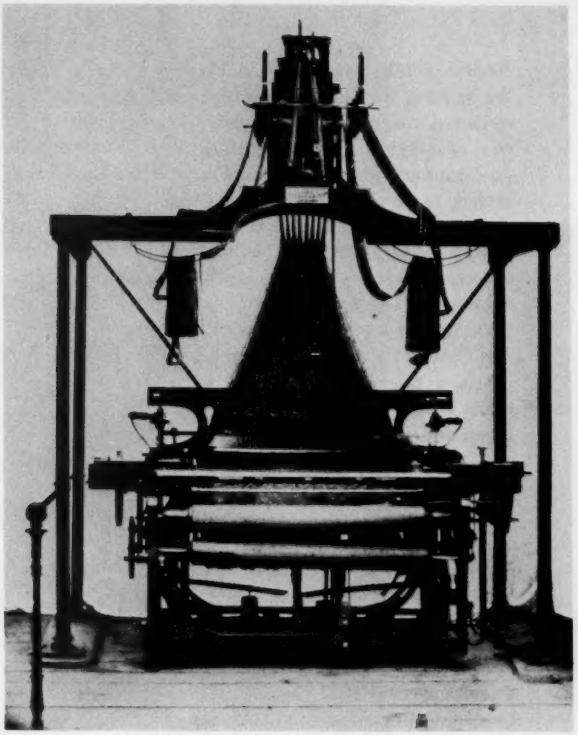
We wish, however, that more information about the photographers *of* the Exhibition could be extracted from the pages of the *Catalogue* and *Reports*. Who were they? We believe that our research throws some new light on this question. In the *Reports* (II, 521) we read of the "various and excellent representations which we now possess of the Exhibition Building itself, in all its stages, by the faithful and well-executed photographic pictures of MM. Martens, Claudet, etc." (2)

Claudet worked with the Daguerreotype process. Martens, the inventor of the Daguerreotype panoramic camera (see *Image*, 1954, III, 28, 29) used glass negatives, as we learn from an article in *La Lumière*, 1851, I, 131. This article also affirms the appointment of Claude Marie Ferrier and Nicolaas Henneman by the Royal Commissioners. We shall speak of these photographers presently.

Mayall, the "American photographist," also took Daguerreotypes. We read in the *Atheneum* (1851, p. 1051) that they are on an "unprecedentedly large scale." ". . . we can scarcely do justice in words to the charm of their precision in drawing . . . In particular they are remarkable for the refinement and accuracy of outline, as well as the delicacy of relief, with which the statuary is produced. Considering . . . that nothing is altered, added, or withdrawn for the sake of effect . . . we are glad to understand that it is Mr. Mayall's intention to reproduce them by means of the glass process – so as to give them to the world on paper with the agreeable tint of the calotype, whilst they retain the precision peculiar to the art through which they are now being created." Some of the statuary photographs in the *Reports* bear out this description. They may well be Mayall's.

Two other photographers contributed to the *Reports:* Hugh Owen and Claude Marie Ferrier. In the *Art Journal* for 1853 (n.s.V, 55) we read: "From Nos. 1 to 72 in the catalogue [of the Photographic Exhibition at the Society of Arts] are a series of photographs sent by the Royal Commissioners of the Great Exhibition – the photographers by whom they were executed being Mr. H. Owen and M. Ferrier: Mr. Owen's pictures obtained on paper, and those of Mr.

DESIGN OF FOUNTAIN, by J. P. V. André. It was awarded the Council Medal. By 1851 cast iron had superseded wrought iron. The practicability of iron for a fountain, "unless protected from the action of water by some hydrofuge," was questioned by the Jury.



DOUBLE JACQUARD LOOM. "The loom can be worked with a velocity 40 percent greater than that of the ordinary construction." Jacquard showed the "ordinary construction" at an industrial exhibition in Paris 1801. It was fiercely opposed by the silk weavers, whose livelihood was threatened by it. In 1851 England was fully aware of the social implications of mechanized industry.

PSYCHE AND CUPID, by C. H. Fraikin. "The motive of this group is spirited, the forms are expressed with great tenderness." The quality of this photograph which, as all photographs of the Great Exhibition, was taken with "available light," suggests a glass negative. Is this one of Mayall's Daguerreotypes, copied on glass?

Ferrier on albumenized glass. These gentlemen, we believe, are only responsible for the first, or negative image. We know, that upon the question of copying . . . these photographs, a long, and not very agreeable discussion arose, which ended, however, in its being decided that they should be copied in France . . . It grieves us . . . to see productions, obtained at a considerable cost, in every way so faulty as those now exhibited." The writer excludes some of Owen's photographs from this criticism, ". . . some of Mr. Owen's paper photographs are good – none of them are, however, equal to other specimens which Mr. Owen has in this exhibition, taken and *printed* (an important point) by himself." The reporter continues with severe criticism of Ferrier's work, particularly of his photographs of statues.

Twenty-seven of the illustrations in the *Reports* show an H.O. monogram. A few others have the same characteristics as those marked H.O.: a reddish-brown tone and a typical fading along the edges which is not encountered in this form on other prints in the *Reports*. These are obviously prints from paper negatives, and they seem to have been made in England. (A brush was used in applying the chemicals. In France, Blanquard-Evrard had introduced floating the paper on both the first and second solutions, insuring a faultless distribution of chemicals. The earlier discussed photographs of statuary show this technique as well as the typically French slate image tone.)

Ferrier did not use a signature. We recognize his photographs of statuary from the justified criticism in the *Art Journal*. Other photographs, mostly of machinery and art objects, have similar characteristics, but no definite inference can be made.

Last, but not least, there is Nicolaas Henneman, who might be called the first apprentice photographer. Once Fox Talbot's valet and photographic handyman, he was advanced to taking over the printing of the *Pencil of Nature* and *Sun Pictures in Scotland* in Talbot's printing establishment in Reading. Later he was set up in Talbot's London establishment at 122 Regent Street, which he and his partner T. A. Malone eventually bought from Talbot. Here they made portraits. Henneman was appointed Photographer in Ordinary to Queen Victoria.

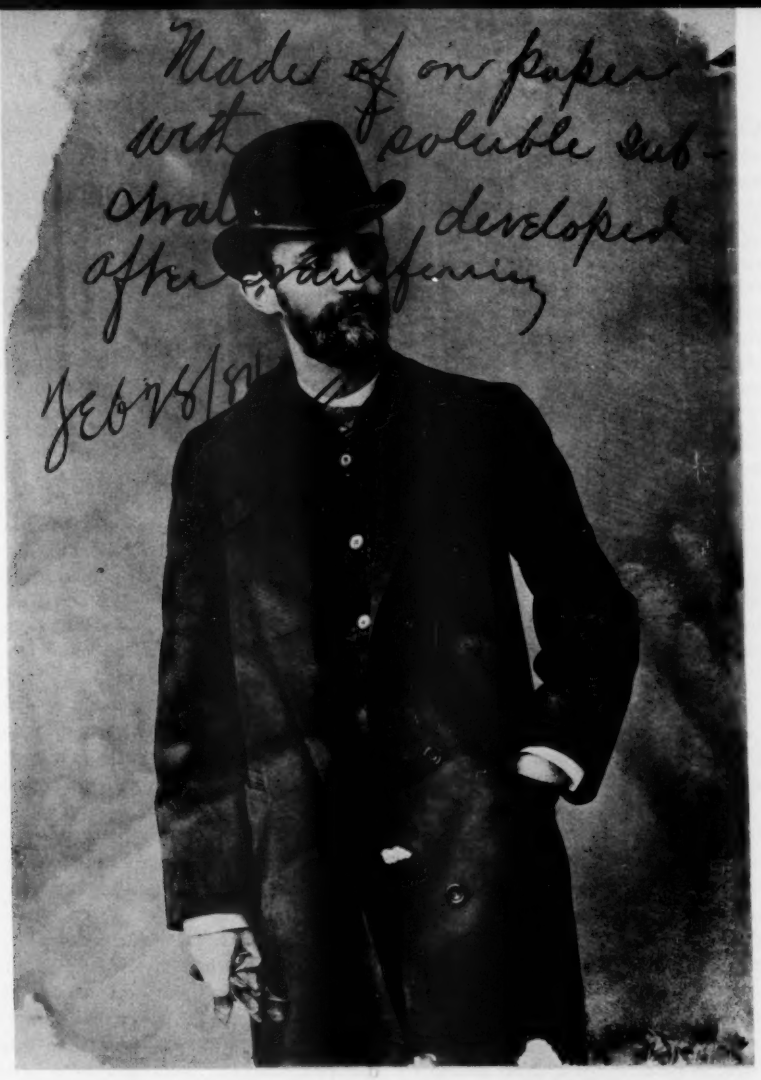
"Henneman," writes Fox Talbot in a letter of October 1851, "is hard at work making photographs of the building (i. e. Exhibition in Hyde Park) for the Royal Commissioners and Executive Committee . . ." (3) In *La Lumière* (1851, I, 92) we read that Henneman and Malone have made many exterior and interior views of the Exhibition. And (p. 131) we learn that Henneman, Martens and Ferrier have been appointed by the Royal Commissioners to photograph the Exhibition, Henneman – so the reporter writes – using Talbot's paper negative process (4) and the other two Niepce de Saint-Victor's albumen on glass.

We know, then, the names of the photographers who were, at one time or other, engaged in photographing the Great Exhibition, but we can with certainty only identify the work of H. Owen.

To summarize the importance of the Great Exhibition to photography, we quote a passage of a letter by Fox Talbot to Lord Rosse: (5) "Ever since the Great Exhibition I have felt that a new era has commenced for photography, as it has for so many other useful arts and inventions. Thousands of persons have now become acquainted with the art, and, from having seen such beautiful specimens of it produced in England and France, have naturally felt a wish to practice it themselves. A variety of new applications of it have been imagined, and doubtless many more remain to be discovered."

REFERENCES

1. London: Spicer Brothers, 1852.
2. The writer presumes that the "etc." includes P. H. Delamotte, the photographer who, in 1854, took progress photographs of the re-erection of the Crystal Palace on its new site in Sydenham, and whose 1854 wet collodion photograph of its interior was so greatly admired. Incidentally, the Crystal Palace stood at its first site, the Hyde Park, only until summer. It was open to the public for less than six months. In the summer of 1852 it was re-erected by private enterprise in Sydenham, where it opened in June 1854. A large scrapbook in the George Eastman House collection contains much interesting material on the Sydenham Exhibition, as well as letters from and to Sir Joseph Paxton.
3. Quoted from materials collected by J. Dudley Johnston toward a biography of Talbot. (Photographic Journal, 1947,A,9)
4. There is much talk about Henneman using collodion. It appears to this writer that he probably used collodion on paper, but not on glass, for his negative process.
5. From an exchange of letters between Talbot, Rosse and Eastlake regarding Talbot's relinquishing his patent rights, published in the *Times*, August 13, 1852.



AMERICAN FILM, Eastman called his 1884 technique of double-coated negative paper to be exposed in the roll holder. After development, gelatin emulsion bearing image was stripped from base, dried to form a transparent negative. Eastman used a negative of himself in testing the material in his laboratory.

How George Eastman

INVENTED THE KODAK CAMERA

by Beaumont Newhall

IN 1883 GEORGE EASTMAN was appointed secretary to the newly formed Dry Plate Makers Association. He had in three years established his company as the leading manufacturer of photographic materials, and his products were in great demand. So far as the professional market was concerned, there was no competitor who offered more.

But Eastman was not satisfied. He wanted to simplify photography so that anybody could take pictures with a minimum of effort, and he abandoned bulky, breakable and heavy glass plates in favor of paper as a support for the light-sensitive gelatin emulsion. Paper could be rolled up; a lot of it could be carried in a small box fitted to the back of a camera. In the already-forgotten days of the calotype such a system had been worked out in England: A. J. Melhuish had built a "roll holder" in the very year that Eastman was born, 1854. But it was not a success. Eastman knew that he could make one that would work.

First he needed sensitized paper. In Europe paper was being coated with gelatin emulsion for printing purposes, but America was slow in adopting the new material. F. C. Beach in the February, 1884, issue of *The Photographic Times* wrote "This paper, which is at present but little known and used in this country, will, when its merits become fully recognized, present to professional and amateur photographers a power which they have little dreamed. As rapid gelatin plates have taken the place of the slow wet plates, so will this paper supersede albumenized for many purposes." Beach goes on to tell how the new paper is made "by coating one side of a sheet with gelatino bromosilver emulsion. After it has set, the paper is hung up to dry and is then ready for use. Although the process appears to be quite simple, a trial will soon convince the most sceptical that such is not the case." He recommends that photographers purchase paper already prepared.

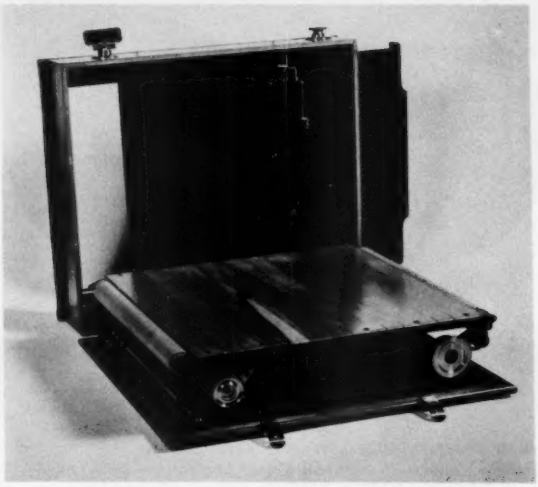
Eastman wanted to use long rolls of this paper as negative material. He already had experience in coating small pieces, but this technique would not do for the much larger sheets which he needed. He finally solved the problem by building a machine which would coat paper almost automatically. "We are informed," wrote the editor of the *Scientific American* in October 17, 1885, "that the machinery employed is large enough to prepare and coat a strip of paper 30 inches wide by 3800 feet long." No details are given about the machine. J. M. Eder, his contemporary and a consultant to continental manufacturers, states that Eastman "constructed the first efficient emulsion coating machine to coat negative paper and films." (The word "film" here is used to refer to the gelatin coating itself – and was so used up to the introduction of transparent base in 1889.)

In designing the roll holder in which to use this paper, Eastman was helped by William H. Walker, a camera designer and dry plate maker who left his partners Reid & Inglis in Rochester in March, 1884, to join Eastman. The holders, which were made in sizes ranging from 3¼ x 4¼ to 25 x 30 inches were simply boxes with two large rollers for the paper and two idler rollers to keep the paper taut. They could be fitted to any standard plate camera. A clicking device let the photographer know when he had wound on enough fresh paper, and two sharp points in one of the rollers punched that paper so that he would know where to cut if off for development – which took place in a tray, exactly like a plate. The negatives, after processing, were made translucent, either with castor oil or with a proprietary product which Eastman called "Translucine."

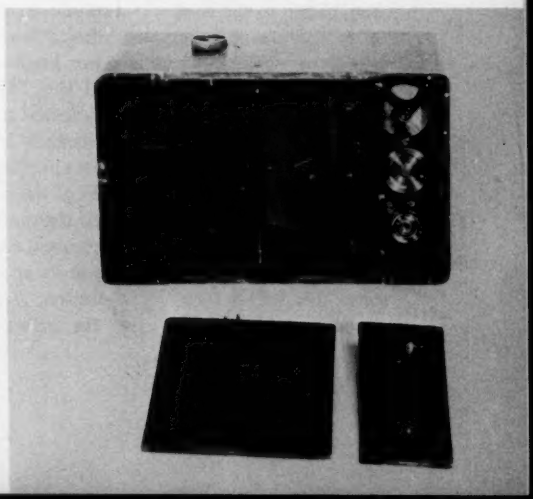
The quality of these paper negatives did not match glass, however, and Eastman next worked out a stripping film which gave negatives that were transparent. Paper was coated with two layers of gelatin. The first, or bottom, coating (called the "substratum") was of soluble plain gelatin; the second, or top, was of insoluble light sensitive gelatin. After processing, the paper was soaked in hot water. The substratum dissolved, and the layer of gelatin bearing the image could then be transferred to a sheet of clear gelatin, dried flat against plate glass, pulled from it and protected with a coat of collodion.

In his experimental work, Eastman used a negative of himself as a test subject, and made exposures by contact on the samples he coated by hand. Eastman House owns a number of these laboratory trials, each signed by Eastman and dated February 28, 1884. Eastman called this new material "American Film," and announced in 1885 "A complete and practical system of Film Photography." The company was reorganized, and the name changed to "Eastman Dry Plate and Film Company."

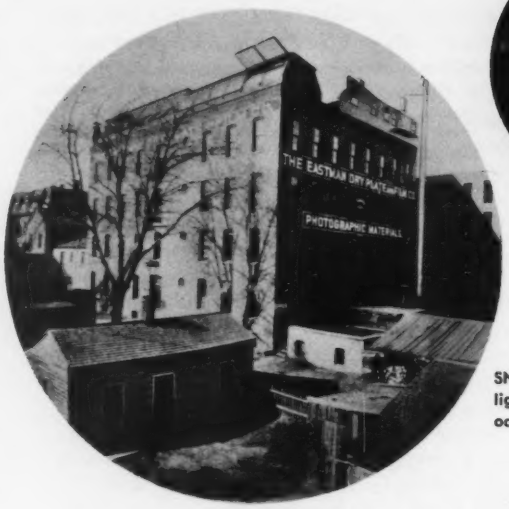
The use of this material – and the negative paper which was still supplied – was limited

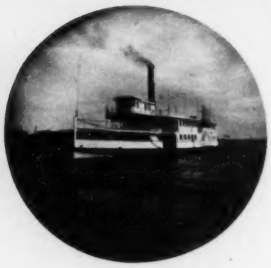


ROLL HOLDER, designed by George Eastman and William H. Walker in 1884, was the first step towards the Kodak camera. Made in several sizes, the box could be fitted to any standard camera, and accommodated enough negative paper for 48 pictures. The new photographic system appealed to the ladies because of its simplicity.



DETECTIVE CAMERA of 1885, George Eastman's first design for a roll film camera, was a commercial failure. The only known example is now in the Smithsonian Institution, Washington.





SNAPSHOT OF FACTORY, taken with Kodak camera, shows skylighted printing studio on roof. Site of original factory is now occupied by General Offices of the Eastman Kodak Company.

largely to professionals who already owned cameras to which the roll holder could be fitted. Hand cameras were a novelty; they were made in the form of boxes and so little resembled conventional bellows cameras that the layman did not recognize them as cameras at all and pictures could be taken with them unawares. Dry plates had already proved of sufficient sensitivity to enable pictures to be taken without the use of a tripod, and in the 1880's a craze of taking unposed photographs outdoors swept England and America. Because of this use, box cameras came to be called "detective cameras."

Eastman designed one of these cameras with Franklin M. Cossitt; they received a patent for it on November 10, 1886. Outwardly it was a simple box; inwardly it was a radical innovation. Fitted in the back was a standard roll holder to contain sufficient American Film for 48 negatives, each 4 x 5 inches, per loading. The shutter, which Eastman called the "Alligator Shutter," was novel. It was a truncated triangular prism of tin, pivoted with its base towards the lens. The apex was a narrow slit. Normally it was held by a catch at the top of the camera. When the release was pressed, the entire tin prism fell to the bottom of the camera, exposing the film through the narrow slit at its apex. In a sense this was a focal plane shutter. For time exposures the sides of the tin prism – "the jaws," as Eastman called them – opened. The new camera was first exhibited at the St. Louis Photographic Convention in June, 1886.

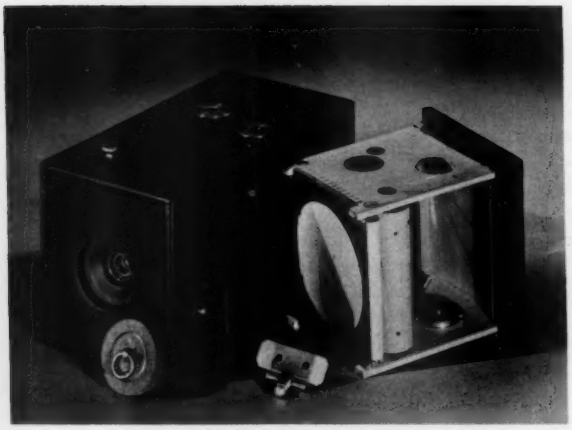
So far as we have been able to discover, only one of these Eastman Detective Cameras exists, in the Smithsonian Institution in Washington. Only a few were made. Eastman ran into production difficulties from the start, and only 50 were completed by June, 1887. In January, 1888, he offered 40 of the cameras to a dealer in Philadelphia at a special price to clear out the line. "We shall not make any more of them," he wrote, "owing to the expense, there being no probability of our being able to make anything on them in quantity."

He was already busy designing a new camera, which was to be known as the Kodak.

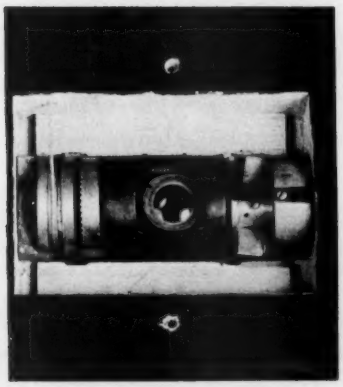
All during the while Eastman was working out his American Film and his new camera, he also introduced a new service. He offered to make prints from customer's negatives – either by contact ("Silver Prints") or by enlarging on his mass-produced bromide paper. The sizes offered varied from 10 x 12 inches (price, mounted, $1.50) up to 30 x 40 ($7.25.)

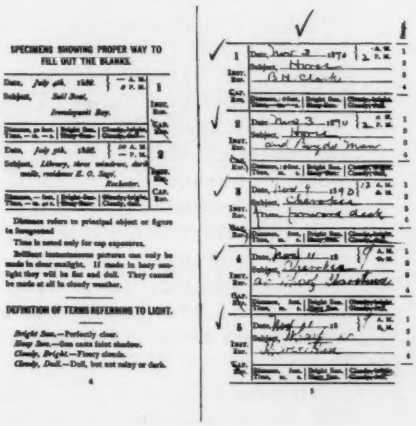
In 1888 Eastman could look back over what he had accomplished in ten years. His dry plates were on sale all over the world. He was making paper for both negatives and enlargements. He had perfected a new type of sensitive material,

KODAK PICTURES were 2½ inches round, mounted on cream or chocolate gilt-edge cards. They were returned 100 at a time. Most amateurs took vacation snapshots, street scenes, family groups, pets.



FIRST KODAK CAMERA of 1888 was a small box camera, loaded with enough American Film for 100 pictures. Unique shutter was designed by Eastman: barrel driven by clock spring, revolves around lens when button is pushed.




SPECIMENS SHOWING PROPER WAY TO FILL OUT THE BLANKS.

DEFINITION OF TERMS REFERRING TO LIGHT.

A NOTEBOOK was furnished with each Kodak camera, so that the owner could keep a memorandum of exposures. Since there was no film counter, the notebook also showed how much film was left to be exposed. This book was kept by George Halford Clark, an early associate of George Eastman.

American Film. He had designed a hand camera. His company was offering photofinishing services to its customers.

He now brought this experience and these innovations into sharp focus with a new system of photography. He summed it up in one word, which he personally coined: Kodak.

The Kodak camera was a leather-covered box, 6½ x 3¼ x 3¾ inches. It could easily be held in the hand. It weighed only a pound-and-a-half, and, in its leather case, could easily be carried about. In one end was the lens. On one of the sides was a brass button. On top was a knob fastened to a string, and a key, like the one on an alarm clock. "The construction and adjustment of the camera is so perfect and simple," wrote George Eastman in the *Kodak Manual*, "that its operation is within the ability of any one who is competent to perform four elementary acts, viz.:

1. Point the camera
2. Press the button
3. Turn the key
4. Pull the cord.

"This is all that is now required of any one who wishes to avail himself of the art to keep a photographic note book. The above operation can be repeated 100 times to take 100 pictures. The camera can then be sent to the Eastman factory where it will be re-loaded, the negatives developed, one photograph printed from each negative, and the 100 handsomely mounted prints returned to the owner, all for a nominal sum without any further trouble on the part of the purchaser. Photography is thus brought within the reach of every human being who desires to preserve a record of what he sees. Such a photographic note book is an enduring record of many things seen only once in a man's life time and enables the fortunate possessor to go back by the light of his own fireside to scenes which would otherwise fade from the memory and be lost."

Eastman's camera cost $25, already loaded with film and including a sole leather case.

To make its operation as simple as possible, the camera was reduced to the most basic form. The lens, a symmetrical doublet of 57mm. focal length manufactured by Bausch and Lomb, had a fixed diaphragm of approximately *f*/9. The lens was rigidly mounted at the hyperfocal distance. The shutter – of Eastman's own ingenious design – was set for the one speed of approximately 1/20 second. It was a cylindrical shell which surrounded the lens, pierced with two openings. As the cylinder was twirled by a clockwork spring, the opening flashed by the lens admitting light to the focal plane. This barrel shutter was used only on the first models of the camera (In 1890 it was replaced by a more conventional guillotine shutter). The shutter was cocked by pulling the string to the top of the camera; it was released by pressing the button on the side.

The film was fitted in a modified roll holder which was an integral part of the camera. The axle of the idling roller revolved in a bushing which was visible on the top of the camera. It was marked with a line. One revolution of the roller, which could be measured by an index mark on the bushing, indicated that fresh American Film for one exposure had been wound on.

The camera did not have a finder, but a grooved V, tooled in the leather, formed a kind of sight, to help the user point the camera.

There was no film counter, and each camera was sold with a memorandum book, in which the photographer was advised to mark down each exposure.

When exposure No. 100 had been taken, and the film winding key would no longer turn, the customer had three alternatives. He could mail the entire camera to Rochester, where the film would be removed, processed and returned – with a fresh film in the camera – all for $10. He could remove the film in a darkroom and send it to the Eastman Dry Plate and Film Company for processing. Or he could do it himself.

The first alternative, summed up in the slogan "You Press the Button, We Do the Rest" was the most popular. A writer in *Wilson's Photographic Magazine*, Oct. 19, 1889, noted that "As a rule, the staff handle the contents of from 60 to 75 Kodaks a day – anywhere from 6 to 7 thousand negatives."

The success of the Kodak surprised George Eastman himself. From Minneapolis, where he introduced the camera at the convention of the Photographers' Association of America he wrote his mother on July 15, 1888:

"Everything has gone well at the convention . . . We got first medal on the Kodak, a diploma for transferotype, and a special recommendation for G. E. personally for his various inventions (unsolicited). The Kodak is a great success among the professional photogs. I hardly thought they would take hold of it so quickly . . .

With love
George."

THE TYPHOON

Produced in USA by the New York Motion Picture Company. 1914. Directed by Reginald Barker under supervision of Thomas H. Ince. With Sessue Hayakawa, Gladys Brockwell, Frank Borzage, Leona Hutton, Henry Katoni. 5 reels 35mm positive.

NO LAST MINUTE RESCUE as the heroic Japanese patriot of Ince's *Typhoon* (1914) faces the guillotine in place of the real murderer.

Ince's production of the 1912 theatre piece *The Typhoon,* which had starred Florence Reed and Walker Whiteside, resulted in one of the most fascinating films to survive from the 1914 period. The leading role, that of a high-ranking Japanese agent in Paris, was much more appropriately enacted in the film by Sessue Hayakawa. France never forgets a great performance on stage or on the screen. When Hayakawa's long Hollywood career seemed at an end, the French who hailed him as one of the greatest for his work in *The Typhoon* and in *The Cheat,* kept him working in French films through all the years of dialogue pictures. The end of World War II brought the Japanese actor a second American career acting Nipponese war-time villains. Now this real veteran has won international acclaim as an effective foil to Alec Guinness in *The Bridge at River Kwai.*

The typhoon of playwright Meynhart Lengyel was no weather-brewed catastrophe, but rather passion which blasted the composure and oriental stoicism of the Japanese agent played by Hayakawa. The French considered it a rare treat of motion pictures to be able to watch Hayakawa's usually impassive features finally rent into tigerish fury—in this case through the wiles of a French cocotte whose behavior finally goaded the desperate Japanese into strangling her. To safeguard the top secret work the agent had well under way, other agents of Japan persuade a patriotic young Japanese to confess the crime and go heroically to the guillotine in Hayakawa's place—a grim foretaste of the kamikaze technique in Nippon's international struggles.

In spite of the disadvantages of working with a stage play, Barker achieved a high degree of concentrated interest in his film by working very close to his cast—particularly close to Hayakawa so that the savage war between conscience and patriotism could be observed to the special delight of his French admirers.

THE GANGSTERS AND THE GIRL

Produced in USA by Kay Bee – Ince. Directed by Scott Sidney under supervision of T. H. Ince. With Charles Ray, Elizabeth Burbridge, Arthur Jarrett. 2 reels 35mm positive.

It has been said that the early Ince films were the envy of contemporary producers for their splendid cutting, and the models for all who tried to tighten up on loose and uneconomical construction. *The Gangsters and the Girl,* a thriller that is almost all action, serves as a perfect demonstration of the sure and far advanced editorial technique of the Ince organization. Present day viewers of the film may be surprised that even the term 'gangsters' was no less unusual in movies of 1914 and 1915 than it was in the early 30's. Even the story, with Charles Ray as Detective Stone, an undercover man who joins the gangsters, has a flavor familiar to the postwar films. Thomas Ince, busy supervisor that he was, must have taken a special interest in this production; he

CHARLES RAY as undercover Detective Stone, about to join the gangsters and the girl. Ince film, 1914.

appears as one of the detectives from whom the convicted heroine is rescued by her criminal boy friend. The ensuing chase in 1914 cars, doesn't move fast enough for Ince. To keep the film moving, he has them abandon the ponderous vehicles of the time and the pursuit and gun fight is carried from the roofs of New York skyscrapers to the tunnels of the mobsters' hideout.

Some notion of the amazing efficiency of Ince's production can be had from surviving office records which concern *The Gangsters and the Girl.* The scenario itself, written by Ince and Richard Spencer, is a model for completeness and clarity. Shooting was begun May 27, 1914 on this film which although only a two-reel drama, required eight different interiors, split-screen effects and a rich variety of exterior locations. It was finished in less than ten days and in one week more, the completed release print was shipped out.

D. W. Griffith and Billy Bitzer Pose for a Still

WHEN DAVID WARK GRIFFITH, the great motion picture director best known for his epic *The Birth of a Nation*, joined the Biograph Company in 1908, he was fortunate to find in the studio G. W. (Billy) Bitzer, who had been with the company since 1896 as cameraman and general jack-of-all-trades. The two at once became companions, and for twenty-one years Bitzer realized on film most of the action that Griffith directed. They worked together so closely that it is virtually impossible to separate their technical contributions.

This production still, taken by an unknown cameraman, shows the famous team in action. Griffith is directing, and Billy Bitzer is photographing, Henry B. Walthall, who was later to star as the Little Colonel in *The Birth of a Nation*.

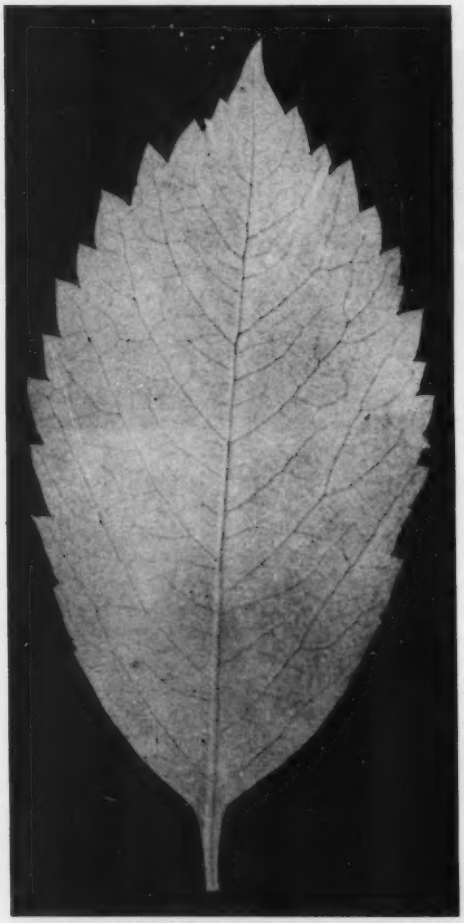
Over and over again this photograph has been published as shooting a scene from *The Escape* (1913-14). This identification, however, is completely erroneous, for Walthall did not act in this film.

However he did play the part of the husband in the one-reeler *Death's Marathon* which the team made for Biograph in 1913. In this melodrama the husband telephones his wife, threatening suicide. The wife tries to hold the husband on the phone while a speeding auto rushes help – but only too late, for the film ends soon after the fatal shot.

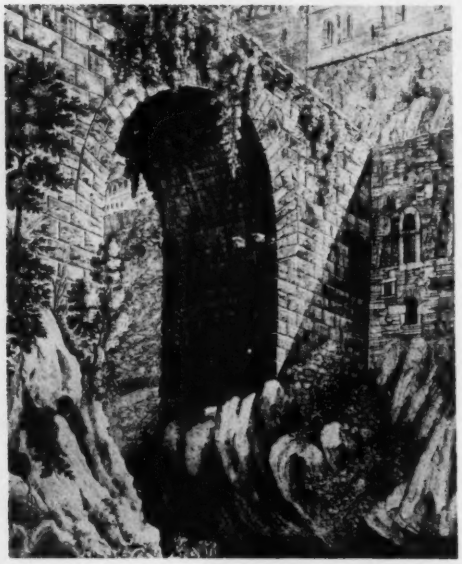
Even though both Griffith and Bitzer had left the Biograph studio at the time the still at the lower left was photographed, and had both gone to work for another company, Reliance, it seems likely that they were re-creating for publicity purposes the arresting scene from the earlier Biograph film. Frame enlargements from the original negative of *Death's Marathon* point up the similarity of the dramatic situations. In the days before high speed film and miniature cameras, stills could not be taken indoors without holding up actual production.

Bitzer is using a Pathe camera – the same one which he used to film both *The Birth of a Nation* and *Intolerance*. "It cost $300," he reminisced in an interview in 1940, "with a 3.5 2-inch lens interchangeable with a wide-angle lens – that is you had to screw one out and screw the other into its place. None of your turrets like they have today, where the comeraman presses a button and the 6-inch lens pops into place! It was a light camera, and it was easy to pick it up and come forward for a close-up, back for a long shot, around for a side angle.

"But there were times when I wished that Mr. Griffith wouldn't depend on me so much, especially in battle scenes. After all a fellow doesn't want to spend all his time in dusty California adobe trenches. The fireworks man shooting smoke bombs over the camera – most of them exploding outside the camera range and D. W. shouting 'Lower, lower, can't you shoot those damn bombs lower?' 'We'll hit the cameraman if we do,' answered the fireworks brigade and bang!, one of them whizzed between my legs for all I knew. But the bombs were coming into the camera field so it was O. K."



LEAF. Original negative, 16.3 x 8.4 cm., made by laying a leaf on photogenic paper and exposing to light. Signed and dated on back, "H. F. Talbot 1839." (Neg. 4304)



COPY OF AN ENGRAVING. From a negative made by contact printing, untrimmed, 23.3 x 18.8 cm. Gift of Miss M. T. Talbot. (Neg. 4303)

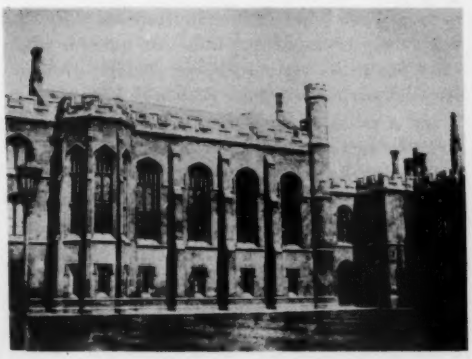
ARTICLES OF CHINA. Calotype, 12.4 x 16.3 cm. on mount 24.9 x 30.6 cm. On back of mount, label: "Patent Talbotype or Photogenic Drawing," number "152" and price, "2/6." About 1845. (Neg. 4301)

STONE HUT BESIDE A LAKE, Calotype, 7.8 x 10.8 cm., mounted on leaf 23 x 28.5 cm., bound opposite page 143 of the *Art Union*, June, 1846. On back, printed label: "Patent Talbotype or Sun Pictures." (Neg. 4305)

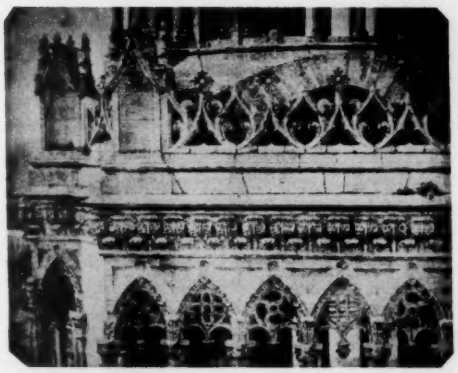
LACE. From a negative made by contact printing. Untrimmed, 23.2 x 18.8 cm. Gift of Miss M. T. Talbot. (Neg. 4302)

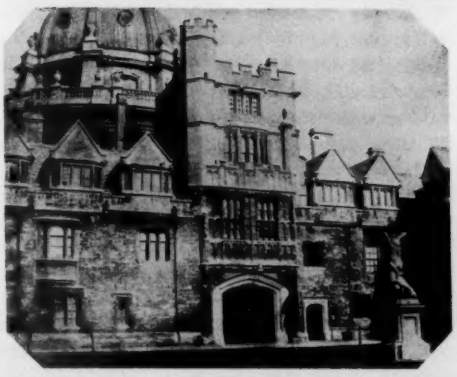
"PART OF ORLEANS CATHEDRAL." Calotype, 15.8 x 19.8 cm., mounted on card, 23.5 x 30.6 cm. On back of mount, rubber stamp: "Patent Talbotype or Sun Pictures," the title, and the price, "2/6." About 1845. (Neg. 2008)

OXFORD CHAPEL. Calotype, untrimmed, 16.7 x 28.8 cm. About 1845. Gift of Alden Scott Boyer. (Neg. 2179)



"ONE OF THE TOWERS OF ORLEANS CATHEDRAL, as seen from the opposite Tower. From nature, 1842." Calotype, 15.5 x 19.2 cm., mounted on paper 21.9 x 28.1 cm. On back, printed label "Patent Talbotype or Sun Pictures." Probably extracted from *Art Union*, June, 1846. (Neg. 2009)





OLD QUADRANGLE OF BRASENOSE COLLEGE, Oxford University. In background: Radcliffe Camera. Calotype, untrimmed, 18.7 x 22.5 cm. About 1845. Gift of Miss M. T. Talbot. (Neg. 449)

BOOK REVIEW

RICHARD GRIFFITH

Roy Schatt

THE MOVIES by Richard Griffith and Arthur Mayer. New York, Simon and Schuster, 1957. 442 pp. Illust. $15.00.

Twenty-one years ago, Paul Rotha (who also later collaborated with Richard Griffith) delighted collectors of film books with his *Movie Parade,* a handsomely printed volume of excellently reproduced motion picture stills. Next to seeing again the movies themselves, film enthusiasts love to look at stills and it was not surprising that Mr. Rotha's publisher was able to bring out a second, enlarged edition of *Movie Parade* in 1950. Meanwhile there had been another film picture book—one to which Deems Taylor permitted his name to be attached. It was a random and wild selection of film photos and set some sort of a record for careless identification and poor reproductions. Still, Taylor's *A Pictorial History of the Movies* went bravely on to a new and expanded edition. Then came David Blum's *A Pictorial History of the Silent Screen* which featured an even more awesome profusion of pictures with many so tiny that looking at them was little better than holding a 35mm frame up to the window. (One photo squeezed twenty persons into a reproduction only 2¼ by 3 inches.)

The long overdue appearance of *The Movies* by Richard Griffith and Arthur Mayer is an event for unqualified rejoicing. The reproductions are BIG. They have been chosen with extreme care and rare good taste to furnish both nostalgia-ridden film fans of the past and demanding connoisseurs with an unmatched album of infrequently published stills. The style of layout and the ratio of picture to text is comparable to that of *Life Magazine's* best.

The great charm of this pleasant book, apart from the enormous delight of enjoying so rich a selection of excellent stills, is that it exudes a tangible sense of sheer, warm-hearted affection for motion pictures and the people (principally the players) who made them. Richard Griffith is the Curator of the Museum of Modern Art Film Library, successor to Iris Barry. In some of his past writing and as an inheritor of the Museum's carefully nurtured, towering standards of taste (and discrimination) Mr. Griffith has rarely revealed in public his genuine and far from frosty regard for the cinema, even in its weaker manifestations. Although *The Movies* is not a publication of the Museum of Modern Art, the fact that it is principally the work of its Motion Picture Curator is heartening confirmation of trends that have been observable in the film programs of the Museum in recent years. Those trends have been healthily away from over concentration on "the classics" and an increasing recognition that even films which

may be cinematically abominable are nevertheless ofttimes invaluable treasures of Americana (or Alemania, Franconia et al).

When the Griffith-Mayer collaboration was first announced, there was good reason to be somewhat skeptical of the success of such a team. Richard Griffith had just published his sensitive eulogy of Robert Flaherty (*The World of Robert Flaherty*). And exhibitor-importer-lecturer-producer Arthur Mayer had attempted to exploit his own reputation as a wit in *Merely Colossal*, a kind of autobiography of "The Merchant of Menace" or "the story of the movies from the long chase to the chaise longe." Having found *Merely Colossal's* 255 pages of puns (occasionally interrupted by clichés) scarcely more amusing than listening to a solid hour of canned studio laughter, there were gloomy forebodings that *The Movies* would have many more chapters than it does with titles like "South of the Boudoir" (describing the Valentino craze).

It is good to be able to report that the text of *The Movies* is even more rewarding than the wonderful illustrations. Any who may be beguiled by the fascinating pictures into overlooking the written word in this volume will have no more complete an idea of what is before them than would one who looks at a 3-D movie without his polaroids. However ambitious or casual the authors' original approach may have been toward this work, however much Mr. Griffith may have been simply carried away by his ingrained love of the movies, it is certain that the text of this book, refined and pared to rare cogency, is a major contribution to the very best that has been written about motion pictures. For almost the first time in all film writing, Richard Griffith has had the perception to give Mary Pickford her just due—a keen appraisal lacking either sentimental adoration or the usual intellectual contempt. And steadfast admirer of Chaplin that he is, Griffith has, surely for the very first time in writing sympathetic to Chaplin, dared to mention the comedian's "meanness and violence" and even his "cruelty."

This new approach of Griffith to writing about films and film people is refreshing and authoritative; it will give all those who really think about motion pictures a thousand new avenues of approach.

Turning back to the splendid pictures, one finds that Richard Griffith has betrayed himself as a most ardent fan of Gloria Swanson. Her allotment of pictures far outnumbers that of any other person in the book. There are twenty-two Swanson photos while even Garbo finishes with just half that number. One of the Swanson gems particularly illustrates the striking calibre of the authors' selection. It introduces two pages devoted to "The Battle of the Titles" and it is captioned: "The Marquise de la Falaise de Coudray (Gloria Swanson) and her husband greet Sir Henry and Lady Wood as Sir Henry arrives to guest-conduct at the Hollywood Bowl." A somewhat dowdily over-dressed Lady Wood stands with a very shaggy Sir Henry, both mugging straight into the camera. At the other end of the group stands the Marquis, looking nowhere at nothing, impeccably groomed and dressed like an American ad for men's wear of 1926. (His American friends all called him Hank.) In the center of this group: Gloria. A smile, just this side of being rapt, as she looks at the Lord and the Lady, seeming to be wavering between moving closer toward them or retreating. Gloria is the most tastefully, simply attired and coiffured member of the party. She looks clean, wholesome, completely admirable. But her left hand is behind her, reaching out somewhat desperately one feels, for her husband's hand. Just two fingers of her assurance-seeking hand establish contact with the Marquis. His right hand, like his left, is at the perfect position of attention as prescribed for all good cadets of St. Cyr.

Everyone who has ever really enjoyed going to the pictures will have immense fun with this superb book. By the figures of the American motion picture industry there should be at least eighty million Americans who once loved the movies enough to visit them every week in the year. Now, the industry is mourning the loss of nearly half of that vast audience. What happened to the other forty million? Perhaps they are the ones who love the movies too well to go to see them knee-deep in popcorn and profaned by juvenile delinquents both of which present-day exhibitors insist on favoring in their increasingly battered and threadbare theatres.

A fortunate few members of the lost audience have taken to building their own private film collections. The next best thing, and a much better solution financially, is to have a copy of the Griffith-Mayer *The Movies:* it is a rare accomplishment that belongs in the archives as well as it does by the fireside.

JAMES CARD

THE DRYDEN THEATRE OF THE GEORGE EASTMAN HOUSE

GEORGE EASTMAN HOUSE ASSOCIATES CALENDAR

Exhibitions in the Dryden Gallery

March 7 to April 6

YOUNG GERMANS BEHIND THE CAMERA
A survey organized by Fritz Gruber

ERICH SALOMON RETROSPECTIVE
The life work of a pioneer photojournalist

Associates Film Program—Dryden Theatre

March 8, at 8:30 P.M.

CONFESSIONS OF A NAZI SPY, 1939, with Edward G. Robinson, George Sanders, Paul Lukas

Associates Travelogues—Dryden Theatre

March 10, at 8:30 P.M.

TRAVELING WITH COLOR, by Ernst Haas

April 7, at 8:30 P.M.

"HALF ROUND THE WORLD IN 42 DAYS."
Color slides of the Middle East with sound recordings by Edward L. Miller and Jane Miller; narration by Mrs. Edward L. Miller; sound recording by Neal Miller.

Exhibitions in the Study Room

March 1958

PORTFOLIO by Walter Goodwin

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